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Supporting information for article:

Heavy metals concentrations and speciation of Pb and Ni in airborne particulate matter over two residential sites in Greater Cairo; reflection from synchrotron radiation

Mohamed H. E. Monged, N. G. Imam, Giuliana Aquilanti, Simone Pollastri, A. M. Rashad and János Osán

Table S1 Results of the LCF analysis on G and H samples (the reported quantities are percentages).

Sample	Metal Ni (%)	NiO (%)	Ni(OH) ₂ (%)	Sum
G1	56.8 (4)	16.2 (8)	27.0 (7)	100
G2	49.8 (3)	25.2 (6)	25.1 (8)	100
G3	26.4 (2)	13.1 (6)	60.5 (6)	100
G4	44.7 (3)	21.5 (5)	33.8 (8)	100
G5	24.4 (1)	30.4 (7)	45.2 (8)	100
G6	32.3 (2)	26.8 (4)	40.9 (4)	100
G7	46.9 (3)	26.4 (6)	26.7 (7)	100
G8	38.8 (3)	23.0 (9)	38.3 (7)	100
G9	26.2 (1)	28.6 (5)	45.1 (5)	100
G mean values	38.5	23.5	38.1	100
H1	25.3 (4)	19.6 (6)	55.1 (8)	100
H2	14.3 (2)	25.7 (7)	60.0 (9)	100

H3	0.0 (1)	0.7 (5)	99.3 (7)	100
H4	22.8 (3)	12.8 (6)	64.4 (6)	100
H5	15.2 (4)	18.3 (9)	66.5 (5)	100
H6	29.1 (4)	21.6 (6)	49.3 (8)	100
H7	12.5 (3)	7.5 (7)	80.0 (6)	100
H8	19.8 (2)	17.4 (8)	62.7 (10)	100
H9	28.7 (3)	13.5 (7)	57.8 (6)	100
H10	23.3 (5)	8.9 (6)	67.9 (5)	100
H mean values	19.1	14.6	66.3	100

Table S2 Carcinogenic and non-carcinogenic risks from toxic elements through inhalation of PM₁₀.

	95% UCL Conc	Carcinogenic inhalation exposure		Non- carcinogenic inhalation exposure		IUR ($\mu\text{g}/\text{m}^3$) ⁻¹	RfCi (mg/m^3)	Carcinogenic risk		Non- carcinogenic Risk	
		EC- Adult	EC- Child	EC- Adult	EC- Child			Adult	Child	Adult	Child
Giza	(ng/m^3)										
As	0.70	2.29E- 04	5.74E- 05	6.69E- 04	6.69E- 04	4.30E-03	1.50E- 05	9.86E- 07	2.47E- 07	4.46E- 02	4.46E- 02
Cd	1.17	3.84E- 04	9.59E- 05	1.12E- 03	1.12E- 03	1.80E-03	1.00E- 05	6.90E- 07	1.73E- 07	1.12E- 01	1.12E- 01

Co	0.76	2.50E-04	6.25E-05	7.29E-04	7.29E-04	9.00E-03	6.00E-06	2.25E-06	5.62E-07	1.22E-01	1.22E-01
Pb	70.10	2.30E-02	5.76E-03	6.72E-02	6.72E-02	8.00E-05	-	1.84E-06	4.61E-07	-	-
Sum								5.77E-06	1.44E-06	2.79E-01	2.79E-01
Helwan											
As	0.28	9.13E-05	2.28E-05	2.66E-04	2.66E-04	4.30E-03	1.50E-05	3.92E-07	9.81E-08	1.77E-02	1.77E-02
Cd	1.70	5.60E-04	1.40E-04	1.63E-03	1.63E-03	1.80E-03	1.00E-05	1.01E-06	2.52E-07	1.63E-01	1.63E-01
Co	0.71	2.35E-04	5.87E-05	6.85E-04	6.85E-04	9.00E-03	6.00E-06	2.11E-06	5.29E-07	1.14E-01	1.14E-01
Pb	96.7	1.05E-02	2.63E-03	3.07E-02	3.07E-02	8.00E-05	-	2.54E-06	6.36E-07	-	-
Sum								6.05E-06	1.52E-06	2.95E-01	2.95E-01

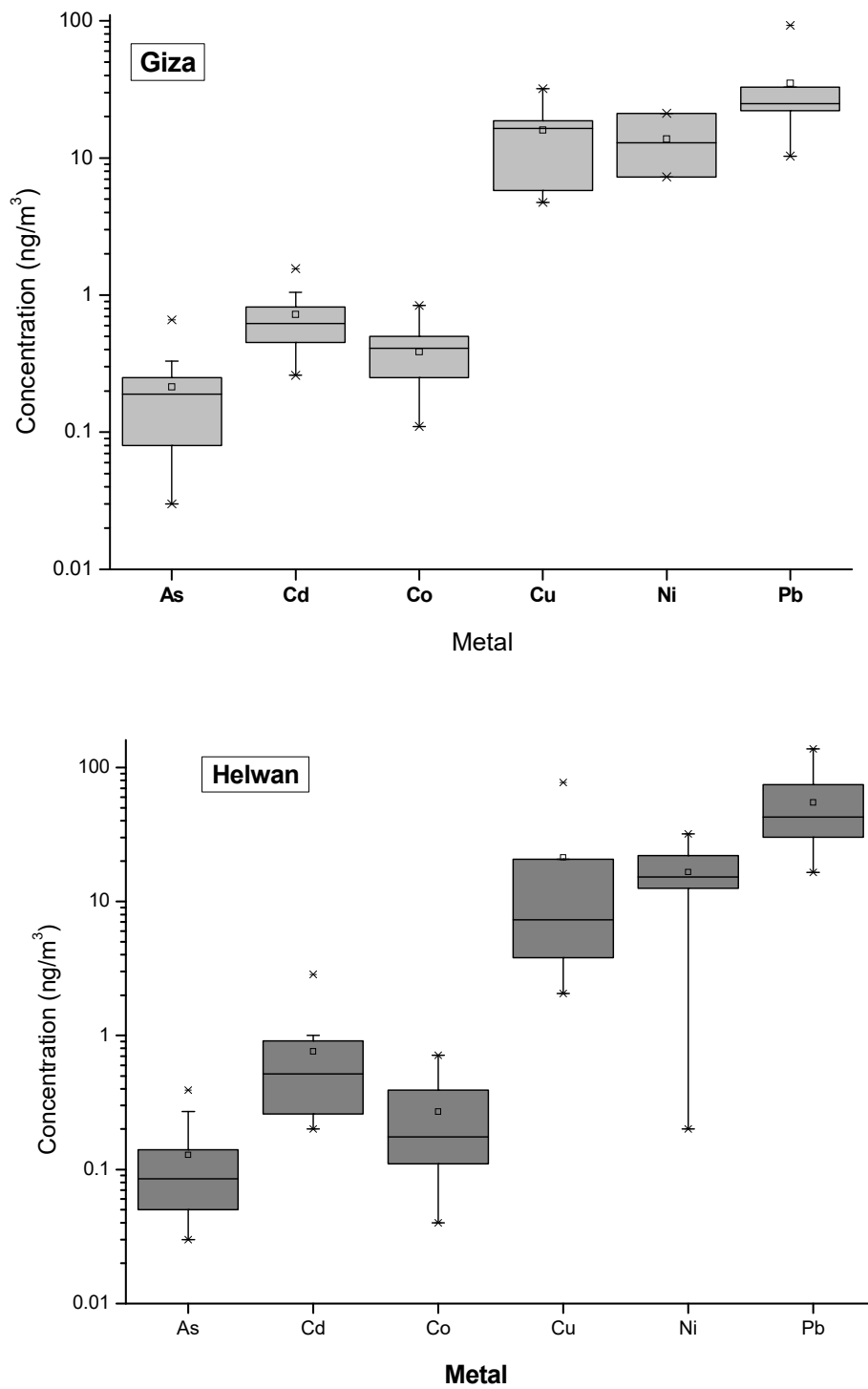


Figure S1 The concentrations of heavy metals (ng/m³) associated with PM₁₀ at Giza (up) and Helwan (down).